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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 10/598,398

Filing Date: December 22, 2006

Appellant(s): WATKINSON, CHARLES

Edwin D. Schindler
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 02/01/2010 appealing from the Office action

mailed 06/02/2009.

(1) Real Party in Interest

The examiner has no comment on the statement, or lack of statement, identifying by name the real party in interest in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The following is a list of claims that are rejected and pending in the application:

Claims rejected: Claims 5-9

Claims cancelled: Claims 1-4

Claims withdrawn: None

(4) Status of Amendments After Final

The examiner has no comment on the appellant's statement of the status of amendments after final rejection contained in the brief.

(5) Summary of Claimed Subject Matter

The examiner has no comment on the summary of claimed subject matter contained in the brief.

(6) Grounds of Rejection to be Reviewed on Appeal

The examiner has no comment on the appellant's statement of the grounds of rejection to be reviewed on appeal. Every ground of rejection set forth in the Office action from which the appeal is taken (as modified by any advisory actions) is being

maintained by the examiner except for the grounds of rejection (if any) listed under the subheading "WITHDRAWN REJECTIONS." New grounds of rejection (if any) are provided under the subheading "NEW GROUNDS OF REJECTION."

WITHDRAWN REJECTIONS

The following grounds of rejection are not presented for review on appeal because they have been withdrawn by the examiner. The rejection of Claim 5 as obvious, pursuant to the non-statutory doctrine of obviousness-type double patenting, over Claim 9 of Watkinson, U.S. Patent No. 5,017,207, taken in view of P.C.T. Publication No. WO 88/08412 has been withdrawn.

(7) Claims Appendix

The examiner has no comment on the copy of the appealed claims contained in the Appendix to the appellant's brief.

(8) Evidence Relied Upon

US 5,017,207 Watkinson 5-1991

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 5-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Watkinson (US 5017207).

Regarding claim 5, Watkinson discloses a method for changing the size and thickness of the flake comprising the steps of feeding molten glass in a down direction to a rotating cup (5); allowing the stream to flow over the edge of the cup and into a gap (19) and then in an angular direction, via air flow, between plates (9 and 11). Therefore the stream is kept in a flattened state and pulled so as solidification or cooling of the molten glass occurs. The thickness of the flake can be changed by the step of adjusting the flow of glass into the cup, the speed of rotation of the cup, the distance between the annular extraction plates, varying the vacuum pull or velocity through the gap between the annular extraction plates, and/or the diameter of the plates. Furthermore, Watkinson discloses that each different material requires different parameters such as the speed of rotation of the cup, temperature of the molten material, volume of the molten material, gap between the plates, and airflow between the plates will be different and that the variable parameters can be varied within wide ranges and all have an inter\- relation to each other. Watkinson states "that based on the material and the variable parameters above it would be apparent one skilled addressee in the art how to vary the parameters to produce flakes of required size and thickness. It is preferred, therefore that the apparatus includes means to vary as many of the above parameters as possible so that a wide variety of materials can be manufactured on the apparatus both in diameter and thickness without further grading, crushing or grinding being necessary (Col 2; lines 20-65, Col 3; lines 6-66).

Watkinson does not explicitly disclose adjusting the distance between the cup or disc and an entrance to the gap between the pair of plates to achieve the desired thickness; however Watkinson does teach varying the many parameters discussed above in order to vary the thickness of the flake. Among the above mentioned parameters, Watkinson discloses varying the diameter of the plates to adjust the thickness of the flake produced. Varying the diameter of the plate would adjust the distance over which the molten material flows after it has flowed out of the cup. Therefore, as one skilled in the art would notice, it is the modification of the distance over which the molten material travels after it has flowed out of the cup that causes a change the thickness of the flakes produced. Thus it would have been obvious to a person of ordinary skill in the art to try to vary the distance between the cup and the entrance gap in an attempt to vary the distance the material flows after leaving the cup and achieve a desired particle thickness distribution of flakes, as a person with ordinary skill has good reason to pursue the known options within his or her grasp. In turn, because altering the distance that the molten material travels by varying the parameters of the apparatus would change the distribution of size and/or thickness of the particles as predicted by the prior art, it would have been obvious to vary the distance between the cup and entrance to the gap between the pair of plates. KSR, 550 U.S. at, 82 USPQ2d at 1391.

Regarding claims 6-9, it would have been obvious to one of ordinary skill in the art to vary the gap between the cup and the pair of plates in order to change the distance the molten material travels as discussed above. Watkinson does not disclose

changing the distance between the cup and the gap between the plates by a specific percentage; however the normal desire of scientists or artisans to improve upon what is already generally known provides the motivation to determine where in a disclosed set of percentage ranges is the optimum combination of percentages. *In re Hoeschele*, 406 F.2d 1403, 160 USPQ 809 (CCPA 1969). Furthermore, a variable which achieves a recognized result, before the determination of the optimum or workable ranges of said variable might be characterized as routine experimentation. *In re Antonie*, 559 F.2d 618, 195 USPQ 6 (CCPA 1977)

In the instant case the change in thickness of the flake is an expected result of changing the distance between the gap to the plates and the rim of the cup. Thus, it would have been obvious to determine, through routine experimentation, the optimum range to vary the distance between the cup and the entrance to the plate to produce flakes with the desired thickness because the prior art teaches adjusting many parameters, including the distance the molten material flows, to vary the thickness size distribution.

(10) Response to Argument

Applicant argues that the applied reference fails to teach or suggest anything relating to the distribution of particle thickness to the extent to which the thickness of the particles may vary, rather than their average thickness or the size of the glass flakes produced. To the extent that "thickness" is discussed by the prior art, it is in connection with "size" and is clearly as a reference to average thickness or average size, for which

only three parameters are suggested however does not discuss the thickness distribution.

Applicant makes the assumption that Watkinson is only referring to the average thickness or size without any explicit evidence. It would be clear to one of ordinary skill in the art that there would have to be some variance in the thickness distribution in order to change the average thickness as discussed by Watkinson. Furthermore, where Watkinson teaches:

"By suitable choice of speed of rotation of the cup, the distance between the two plates and choice of air flow through the vacuum chamber, the size and thickness of the flakes of material to be produced can be controlled" (Col 2; lines 7-10)

"It should be noted that the diameter of the plates will also have an effect on the flake size and thickness to be produced and this also will have to be carefully chosen. (20) The variable parameters can be varied within wide ranges and all have an inter-relation to each other. When the material to be used is chosen, it will be readily apparent to the skilled addressee of the specification as to how to vary the parameters to produce flakes of required size and thickness." (Col 2; lines 42-50)

Thus, Watkinson never discusses the "average thickness" It is clear from the statements of Watkinson above that one of ordinary skill in the art would understand how to manipulate these "variable parameters" in order to control the size and thickness of the flakes.

Applicant also argues that there is no disclosure or suggestion in Watkinson et al. of varying the distance between the rotating cup and the entrance to the gap between the pair of plates. Applicant states on page 9 of the appeal brief filed 02/01/2010:

"The variables exemplified by the prior art include the volume of the molten stream entering the rotating cup, the temperature of the material, the speed of the centrifuge cup, the diameter of the centrifuge cup, the gap between the pair

of plates, the distance between the cup and the exit from the pair of plates and the airflow out of the chamber. (See, Watkinson et al. at Col. 2, lines 7-46)

It should, however, be noted, as the Examiner would appear to agree, that there is no disclosure or suggestion in Watkinson et al. of varying the distance between the rotating cup and the entrance to the gap between the pair of plates."

In response to applicant's arguments, Watkinson is relied upon for teaching varying the many parameters discussed above in order to vary the thickness of the flake. Among the above mentioned parameters, Watkinson discloses varying the diameter of the plates to specifically adjust the thickness of the flake produced, as cited previously.

Varying the diameter of the plate would adjust the distance over which the molten material flows after it has flowed out of the cup at a given velocity. Therefore, as one skilled in the art would recognize, it is the modification of the distance over which the molten material travels after it has flowed out of the cup that causes a change to the thickness of the flakes produced or the amount of air exposure the material encounters. Thus it would have been obvious to a person of ordinary skill in the art to try to vary the distance between the cup and the entrance gap in an attempt to vary the distance the material flows after leaving the cup and achieve a desired particle thickness distribution of flakes, as a person with ordinary skill has good reason to pursue the known options within his or her grasp.

Furthermore, applicant states in the arguments filed 02/19/2009 that the option of varying the distance between the cup and plate in order to affect flake size was known, i.e. "it was previously known that variation of the distance between the cup and the

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plates was one of many factors which could affect flake size" (as explained in Applicant's Specification at Page 4, lines 9-10). Particle size is considered to encompass the thickness and if this variable was known to vary the size of the particles it would be obvious for one of ordinary skill in the art to expect this variable to change the thickness. Furthermore, MPEP 2145 states, "A person of ordinary skill has good reason to pursue the known options within his or her technical grasp. If this leads to the anticipated success, it is likely that product [was] not of innovation but of ordinary skill and common sense. In that instance the fact that a combination was obvious to try might show that it was obvious under § 103." KSR International Co. v. Teleflex Inc., 550 U.S. , ,82 USPQ2d 1385, 1397 (2007)." Taking into consideration the wide variety of parameters discussed by Watkinson in addition to the admission by the applicant that it was known that varying the gap changed particle size it would have been within the technical grasp of a skilled artisan to vary this same distance to affect the particle size distribution.

In addition, applicant admits in the paragraph bridging pages 8 and page 9 of the appeal brief filed 02/01/2010 that among the variables exemplified by the prior art it is known "to change the diameter of the centrifuge cup." As one skilled in the art would recognize, this known changing of the diameter of the centrifuge cup would clearly change the gap between the cup and the plates and would thus change the thickness distribution of the particles, thus reading on claim 5 of the present application. Thus, applicant themselves admit that it was previously known in the art to change the gap between the cup and the plates.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

/Jodi F. Cohen/

Examiner, Art Unit 1791

Conferees:

/Steven P. Griffin/

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